

Chemistry 340

In class activity: Objective or Not?

Consider the four passages below. Ask your self the following questions:

- What is the subject matter?
- How is the subject matter treated?

Remember that the distinguishing mark of scientific writing is lies more in the treatment of the topic (“how”) rather than the topic itself (“what”). A description of an object does not make the description objective.

Divide into small groups and discuss the subjectivity/objectivity of the passages below within your group. Someone should facilitate your discussion, and someone should keep track of time, so that you spend about 5-7 minutes discussing each passage. Support your view with specific phrases or words in the text.

Then, on your own, select the subjective accounts and rewrite them in a MSWord document to make them objective accounts. Feel free to improve upon grammar and word usage. Do not put your name on the document itself. You will find an electronic copy of this document in the 340 common folder from which you can copy and edit the text. Save your work in your folder with a unique name, for example “passage_1_initials” so that your work is properly credited, but also place a copy of your work into the 340 common folder so that we may review them in class.

1. At tea, however, a shape began to emerge which brought back our spirits. Three chains twisted around each other in a way that gave rise to a crystallographic repeat every 28\AA along the helical axis. This was a feature demanded by Maurice’s and Rosy’s pictures, so Francis was visibly assured as he stepped back from the lab bench and surveyed the afternoon’s efforts. Admittedly, a few of the atomic contacts were still too close for comfort, but after all, the fiddling had just begun. With a few hours’ more work, a presentable model should be on display.
2. When the NMDA receptor glutamate channel opens, it allows the passage of not only sodium and potassium atoms but also an appreciable amount of calcium ions (Ca^{2+}). These incoming calcium atoms appear to be the signal that initiates complex chains of chemical reactions that at the moment are only partially understood. We can now begin to see the beginnings of an explanation of cognitive processes, such as memory, in terms of molecular events.
3. He was a very small frog with wide, dull eyes. And just as I looked at him, he slowly crumpled and began to sag. The spirit vanished from his eyes as if snuffed. His skin emptied and drooped; his very skull seemed to collapse and settle kile a kicked tent. He was shrinking before my eyes like a deflating football. I watched the taut, glistening skin on his shoulders ruck, and rumple, and fall. Soon, part of his skin, formless as a pricked balloon, lay in floating folds like bright scum on top of the water: it was a monstrous and terrifying thing. I gaped, bewildered, appalled. An oval shadow hung in the water behind the drained frog: then the shadow glided away. The frog skin bag started to sink. I had read about the giant

water bug, but never seen one. “Giant water bug” is really the name of the creature, which is an enormous, heavy-bodied brown beetle.

4. Hemipteran mouthparts are modified to form a piercing beak. Whereas most terrestrial bugs are phytophagous, using the beak to pierce plant tissue, aquatic hemipterans (including many *Corixidae*) inject enzymes to liquefy tissues of animal prey that are sucked up through a food channel in the beak. Prey normally consists of small insects and crustaceans, although there are accounts of giant water bugs (Belostomatidae: Lethocerinae) attacking and subduing frogs, fish, and water snakes. The largest aquatic insects are members of the genus *Lethocerus*.